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Eyal Trachtman

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EXAMINER

THOMPSON, JR, OTIS L

ART UNIT

PAPER NUMBER

2619

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/501,736	Applicant(s) TRACHTMAN ET AL.	
	Examiner OTIS L. THOMPSON, JR	Art Unit 2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/16/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper."

Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Claim Objections

2. Claims 4, 6, and 18-22 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from another multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims 21 and 22 have not been further treated on the merits. For the purposes of examination, claims 4 and 6 are treated as being dependent upon claim 1, and each of claims 18-20 is treated as being dependent upon either of claims 14, 15, or 17.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 21 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 21 recites "a signal generated by a method". This

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disclosure is non-statutory because a signal is not a process, machine, manufacture, or composition of matter.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claims 1-6 provides for the use of a *burst comprising a plurality of forward error corrected blocks, wherein the forward error-correction coding rate varies among the forward error corrected blocks, and the burst includes a header indicating the coding rate of one of the blocks and said one of the blocks contains data indicating the coding rate of a subsequent one or more of the blocks*, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 1-6 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPO 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPO 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 8 and 9 rejected under 35 U.S.C. 102(b) as being anticipated by Mantha (WO 01/91407 A1).

9. Regarding claim 8, Mantha discloses *a method of wireless transmission from a transmitter* (Figure 1 label 24) *to a plurality of receivers* (Figure 1 labels 28a-28n), *wherein the transmission includes a plurality of packets addressed respectively to the receivers* (Inherent in Figure 1), *the method including determining the least capable of the receivers* (Page 7 lines 5-6, see "...subscriber stations 28 in system 20 that have at least a predetermined minimum reception quality...") *and selecting one or more parameters of the transmission so as to match the capabilities of the least capable of the receivers* (Page 7 lines 6-9, see "...header 104 is packaged in a robust manner to increase probability that subscriber stations 28 will be able to receive it [i.e. the frame error rate, or FER, for subscriber stations to receive and understand header 104 is less than a level selected by the operator of system 20]...", i.e. where FER is the parameter selected to match capabilities of the least capable of the receivers).

10. Regarding claim 9, Mantha discloses that *the transmission includes a forward error-corrected block having a coding rate selected to match the capabilities of the least*

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capable of the receivers (Page 7 lines 5, see "...intended that header 104 be receivable by all subscriber stations..."; Page 7 lines 10-12, see "...header 104 comprises...coding the information bits for forward error correction [FEC] to yield thirty coded bits [a rate 1/3 FEC code]...", i.e. coding rate selected to match the capabilities of the least capable of the receivers).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg et al. (US 6,141,788) in view of Chen (EP 1 130 837 A2).

13. Regarding claim 1, Rosenberg et al. discloses *a method of transmitting a plurality of forward error corrected blocks within a burst* (Column 2 lines 13-15, see "...FEC code packet stream...", i.e. the FEC packets are FEC blocks and the stream is the burst), *wherein the forward error-correction coding rate varies among the forward error corrected blocks* (Abstract, see "...adapt the forward-error-correction code...degree of error correction provided on a one-time basis or even more dynamically...").

Rosenberg et al. further discloses *said one of the block contains data indicating the coding rate of a subsequent one or more of the blocks* (Column 3, lines 30-41, see "...media packet...associated with this FEC packet...allows FEC packet to be associated

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with any of the packets before or after it..."). In other words, an FEC packet (i.e. forward error corrected block) is associated with a media packet (i.e. contains data indicating the coding rate), which is a packet that has been forward-error-corrected, and the association can be with any media packet that comes before or after the FEC packet (i.e. subsequent one or more of the blocks).

Rosenberg et al. does not specifically disclose that *the burst includes a header indicating the coding rate of one of the blocks*.

However, according to Applicant (Background of the Invention), Chen discloses a packet data burst format including a unique word, a header modulated with a default modulation and coding scheme, and a payload modulated with a modulation and coding scheme specified by the header (See Abstract). Chen's burst allows the modulation and coding schemes to be adjusted to adapt to the varying propagation conditions of the terminals (Paragraph 0005, see All).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to incorporate the teachings of Chen into Rosenberg et al. in order to allow the modulation and coding schemes to be adjusted to adapt to the varying propagation conditions of terminals.

14. **Regarding claim 2**, Rosenberg et al. does not specifically disclose that *said one of the blocks is a first one of the blocks to be transmitted*.

However, according to Applicant (Background of the Invention), Chen discloses a packet data burst format including a unique word, a header modulated with a default modulation and coding scheme, and a payload modulated with a modulation and coding scheme specified by the header (See Abstract). In other words, the header

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indicates the coding scheme of the first block (e.g., payload is said one of the blocks).

When combined with Rosenberg et al., the first block would be an FEC packet of the FEC stream. This allows the modulation and coding schemes to be adjusted to adapt to the varying propagation conditions of the terminals (Paragraph 0005, see All).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to incorporate the teachings of Chen into Rosenberg et al. in order to allow the modulation and coding schemes to be adjusted to adapt to the varying propagation conditions of terminals.

15. **Regarding claim 3**, Rosenberg et al. does not specifically disclose that *said header comprises a variable unique word*.

However, according to Applicant (Background of the Invention), Chen discloses a packet data burst format including a unique word, a header modulated with a default modulation and coding scheme, and a payload modulated with a modulation and coding scheme specified by the header (See Abstract). The unique word provides a synchronization mechanism for terminals (Paragraph 0019, see "...unique word field 201 provides..."). By this disclosure, the unique word has to be variable since it is being used to communicate between a satellite and multiple terminals. This allows the modulation and coding schemes to be adjusted to adapt to the varying propagation conditions of the terminals (Paragraph 0005, see All).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to incorporate the teachings of Chen into Rosenberg et al. in order to allow the modulation and coding schemes to be adjusted to adapt to the varying propagation conditions of terminals.

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16. Regarding claim 4, Rosenberg et al. in view of Chen discloses that *the blocks contain packets address to a plurality of receivers* (Rosenberg et al., Abstract, see "...media packets and FEC packets can be sent to both FEC-capable and FEC-incapable receivers...").

17. Regarding claim 5, Rosenberg et al. in view of Chen discloses that *at least some of the packets are split between different ones of the blocks* (Column 3 lines 35-40, see "...FEC packet to be associated with any of the M packets before or after it...", i.e. indication that some the media packets are split between different ones of the FEC blocks).

18. Regarding claim 6, Rosenberg et al. does not specifically disclose that *the coding rate indicated in the header is less than or equal to the coding rate of the subsequent one or more blocks*.

However, according to Applicant (Background of the Invention), Chen discloses a packet data burst format including a unique word, a header modulated with a default modulation and coding scheme (i.e. default means that the *coding rate indicated in the header is less than or equal to that of subsequent blocks*), and a payload modulated with a modulation and coding scheme specified by the header (See Abstract). . This allows the modulation and coding schemes to be adjusted to adapt to the varying propagation conditions of the terminals (Paragraph 0005, see All).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to incorporate the teachings of Chen into Rosenberg et al. in order to allow the modulation and coding schemes to be adjusted to adapt to the varying propagation conditions of terminals.

19. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (EP 1 130 837 A2) in view of Rosenberg et al. (US 6,141,788 B1).

20. **Regarding claim 7**, according to Applicant (Background of the Invention), Chen discloses *a method of transmitting a data burst comprising a unique word* (Page 2 lines 4-7 of Applicant's disclosure, see "...packet data burst...a unique word...", [Chen, Paragraph 0005, see All]), *wherein the unique word is variable and indicates the transmission scheme of at least one of said blocks* (Page 2 lines 4-7 of Applicant's disclosure, see "...payload modulated with a modulation and coding scheme specified by the header...", [Chen, Paragraph 0005, see All]; Paragraph 0019, see "...unique word field 201 provides a synchronization mechanism for terminals...", i.e. unique word is variable because it is communicated between the satellite and two different terminals).

Chen does not specifically disclose that the burst *comprises a plurality of blocks, and said at least one block indicates the transmission scheme of at least one other of said blocks*.

Rosenberg et al. discloses a burst with a plurality of blocks (Column 2 lines 13-15, see "...FEC code packet stream...", i.e. the FEC packets are FEC blocks and the stream is the burst).

Rosenberg et al. further discloses that *said one of the block contains data indicates the coding rate of a subsequent one or more of the blocks* (Column 3, lines 30-41, see "...media packet...associated with this FEC packet...allows FEC packet to be associated with any of the packets before or after it..."). In other words, an FEC packet (i.e. forward error corrected block) is associated with a media packet (i.e. contains data

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indicating the coding rate), which is a packet that has been forward-error-corrected, and the association can be with any media packet that comes before or after the FEC packet (i.e. subsequent one or more of the blocks).

The method of Rosenberg et al. ensures that lost data, recoverable with combinations of media packets and FEC packets, is recovered (Abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to incorporate the teachings of Rosenberg et al. into Chen in order to ensure that lost data, recoverable with combinations of media packets and FEC packets, is recovered

21. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mantha in view of Struhsaker et al. (US 2002/0086707 A1).

22. **Regarding claim 10**, Mantha discloses *a method of wireless transmission from a transmitter (Figure 1 label 24) to a plurality of receivers (Figure 1 labels 28a-28n), wherein the transmission includes a forward error corrected block that includes part or all of a plurality of packets (Page 7 lines 4-5, see "...including a header 104 and a payload 108 [i.e. part or all of a plurality of packets]...") addressed to different ones of said plurality of receivers and has a coding rate is selected so as to match the capabilities of the least capable of the receivers to which the packets are addressed (Page 7 lines 5, see "...intended that header 104 be receivable by all subscriber stations [i.e. addressed to different ones of said plurality of receivers]..."; Page 7 lines 10-12, see "...header 104 comprises...coding the information bits for forward error correction [FEC] to yield thirty*

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coded bits [a rate 1/3 FEC code]...", i.e. coding rate selected to match the capabilities of the least capable of the receivers).

Mantha does not specifically disclose *transmitting a burst containing a plurality of forward error-corrected blocks*.

However, Struhsaker et al. discloses a wireless system in which *a burst containing a plurality of forward error-corrected blocks are transmitted* (Figure 5c labels 534 and 536, i.e. plurality of FEC blocks; Paragraph 0121, see "...Fig. 5c illustrates exemplary transmission burst 530 containing a frame with multiple FEC blocks..."). Furthermore, it is noted that Struhsaker et al. also discloses that the transmission burst *includes part or all of a plurality of packets addressed to different ones of said plurality of receivers* (Paragraph 0133, see "...the packet data unit [PDU]...PDU may be a complete packet transmission or a fragment of a much larger message..."; Figure 5c labels 533 and 535, multiple Data PDUs, i.e. plurality of packets). The advantage of this transmission burst is that the wasting of bandwidth on additional MAC headers is avoided because when a channel requires a more robust FEC, the PDU may be broken into segments that are protected by separate FEC CRC fields (Paragraph 0133, see "...when a channel requires...avoids wasting bandwidth...").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to incorporate the teachings of Struhsaker et al. into Mantha in order to keep from wasting bandwidth.

23. Regarding claim 11, Mantha does not specifically disclose that *some of the packets are split between different forward error-corrected blocks*.

However, Struhsaker et al. discloses that *some of the packets are split between different forward error-corrected blocks* (Figure 5c, see transmission burst 530 and labels 533-536; Data PDUs are split by Block CRCs [i.e. FEC blocks]). The advantage of this transmission burst is that the wasting of bandwidth on additional MAC headers is avoided because when a channel requires a more robust FEC, the PDU may be broken into segments that are protected by separate FEC CRC fields (Paragraph 0133, see "...when a channel requires...avoids wasting bandwidth...").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to incorporate the teachings of Struhsaker et al. into Mantha in order to keep from wasting bandwidth.

24. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over TRW (EP 1 158 699 A2) in view of Vistar (WO 99/49592).

25. Regarding claim 12, TRW discloses *a method of assigning a plurality of packets addressed to a plurality of wireless receivers to a plurality of bearers* (Abstract, see "...uplink and downlink channels [i.e. plurality of bearers] for conveying data packets over channels between user terminals [i.e. plurality of packets addressed to the receivers]...").

TRW does not specifically disclose *identifying the receiving capabilities of the wireless receivers and assigning packets addressed to ones of the receivers having similar receiving capabilities onto the same one of said bearers*.

However, Vistar discloses a wireless system in which incoming packets are buffered and then mixed with one or more digital subcarriers [i.e. *bearers*], depending

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on the data rate (i.e. *assigning packets addressed to ones of the receivers having similar receiving capabilities onto the same one of said bearers*), and the subcarriers combined into a baseband signal (Page 6 lines 25-27). Furthermore, these carriers can have different channel rates at different power levels in order to support terminals with different antenna characteristics, such as gain, size, etc. (i.e. *identifying the receiving capabilities of the wireless receivers*) (Page 7 lines 4-6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to incorporate the teachings of Vistar into TRW in order to support terminals with different antenna characteristics.

26. Regarding claim 13, TRW discloses *a method of assigning a plurality of receivers to a plurality of bearers for reception of packet addressed to the receivers* (Abstract, see "...uplink and downlink channels [i.e. plurality of bearers] for conveying data packets over channels between user terminals [i.e. packets addressed to the receivers]...").

TRW does not specifically disclose *in a first, low traffic condition, assigning packets to a smaller number of bearers containing packets addressed to receivers of differing receiving capabilities and in a second, high traffic condition, assigning packets to a greater number of bearers*.

However Vistar discloses *in a first, low traffic condition, assigning packets to a smaller number of bearers containing packets addressed to receivers of differing receiving capabilities* (Page 7 lines 6–8, see "...packets arrive...at a very low bit rate...send them out on a single carrier [i.e. bearer]...", i.e. smaller number of bearers for low traffic condition), *and in a second, high traffic condition, assigning packets to a greater number of bearers* (Page 7 lines 8-9, see "...rate is too great for a single

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carrier...distributed across one or more channels...", i.e. greater number of bearers for high traffic condition) *and assigning packets addressed to those of the receivers having similar receiving capabilities onto the same one of said greater number of bearers* (Page 6 lines 25-27, see "...incoming data packets are buffered and then mixed with one or more digital subcarriers [i.e. bearers] depending on data rate..." i.e. assigning packets addressed to those of the receivers having similar receiving capabilities onto the same one of said greater number of bearers; Page 7 lines 4-6, see "...carriers can have different channel rates...at different power levels to support terminals with different antenna characteristics..."). This allows the system to support terminals with different antenna characteristics, such as gain, size, etc (Page 7 lines 4-6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to incorporate the teachings of Vistar into TRW in order to provide support for terminals with different antenna characteristics.

27. Claims 14 -20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas (US 6,697,642 B1).

28. **Regarding claims 14 and 17**, Applicant has disclosed the same features, but from different viewpoints. Claim 14 discloses features of the method from the terminal side, while claim 17 discloses essentially the same features from the satellite side. Therefore, the following rejection applies to both claims.

Thomas discloses *a method of transmission over a satellite link between a satellite station and a mobile satellite terminal* (Column 1 lines 43-44, see "...communications

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between a cellular radio telephone base station [i.e. satellite terminal] and a mobile station [i.e. mobile satellite terminal]...” *able to transmit at a selected one of a plurality of different forward error correction (FEC) coding rates* (Column 1 lines 48-50, see “...switch the coding rate for transmissions...”, i.e. implies plurality of different coding rates) *wherein a change between successive ones of said FEC coding rates provides a substantially constant change in gain over the satellite link* (It is well known in the art that the FEC coding rates directly impacts the gain in this type of transmission system because of signal quality and strength).

Thomas does not specifically disclose, as claimed by Applicant, the communication between the satellite station and the terminal as being *a plurality of bursts from the terminal to the satellite station, wherein the FEC coding rates vary between some of the bursts in response to a signal from the satellite, receiving a first burst from the terminal to the satellite station and determining the reception quality of the first burst, and if the reception quality does not meet a predetermined criterion, transmitting a command to the from the satellite station to the terminal to select a different FEC rate for transmission of a second, subsequent burst such that the second transmission is received with a reception quality which meets the predetermined criterion.*

However, Thomas does implicitly disclose these features. Thomas discloses that based on the measured signal quality, the base station can send an instruction to a mobile station to switch the coding rate for transmission therefrom (Column 1, lines 47-50). The implicitly proves that *a first burst, with an initial coding rate, is sent to the from the mobile station to the base station, the base station measures the signal quality (i.e.*

compare reception quality to predetermined criterion), the base station responds to the burst instructing the mobile station to choose a different coding rate (i.e. *command to select a different FEC coding rate in the terminal*), and the mobile station transmits another burst (i.e. *second, subsequent burst*), with a coding rate different from the initial coding rate (i.e. *reception quality does meet the predetermined criterion*) to the base station.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify the teachings of Thomas to specifically include *a plurality of bursts from the terminal to the satellite station, wherein the FEC coding rates vary between some of the bursts in response to a signal from the satellite, receiving a first burst from the terminal to the satellite station and determining the reception quality of the first burst, and if the reception quality does not meet a predetermined criterion, transmitting a command to the from the satellite station to the terminal to select a different FEC rate for transmission of a second, subsequent burst such that the second transmission is received with a reception quality which meets the predetermined criterion* because it enables the mobile station and the base station to choose a coding rate based on signal quality before performing a coding rate switch.

29. Regarding claim 15, Thomas discloses that *said signal is dependent on a reception quality of one or more of said bursts previously received from the mobile satellite terminal by the satellite station* (Column 1 lines 47-50, see "...based on measure signal quality, the base station can send an instruction [i.e. signal]...").

30. Regarding claim 16, Thomas discloses that *the mobile satellite terminal selects the FEC coding rates of at least one of said bursts dependent on a reception quality of one*

or more transmissions transmitted from the satellite station to the mobile satellite terminal if said signal is not received from the satellite station within a timeout period (Column 2 lines 46-56, see "...determining a period of inactivity [i.e. timeout period for receiving signal]...determining signal quality of a signal received during said period [i.e. reception quality of one or more transmissions from the satellite station...coding means operable at two or more coding rates and responsive to a determined signal quality to switch between coding rates [i.e. select coding rate of one of said bursts dependent upon reception quality from satellite station to terminal]...").

31. **Regarding claim 18**, Thomas does not specifically disclose that *said substantially constant change in gain is approximately 1 dB*, however, it is well known in the art that change in gain between a satellite station and a terminal can be constant at 1 dB.

32. **Regarding claim 19**, Thomas discloses that *the satellite station is a satellite ground station* (Column 1 lines 43-44, see "...cellular radio telephone base station...") *for communicating with the satellite terminal via a satellite* (Base station communication with satellite is well known in the art).

33. **Regarding claim 20**, Thomas does not disclose that *said satellite station is a satellite*, however, it is well known in the art that a satellite station can be construed as a base station on the ground or a satellite.

34. Claims 21 and 22 have been objected to because they are invalid multiple dependent claims. Since features and limitation of all other claims have been rejected, claims 21 and 22 are also rejected.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OTIS L. THOMPSON, JR whose telephone number is (571)270-1953. The examiner can normally be reached on Monday to Thursday 7:30 am to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chirag Shah can be reached on (571)272-3144. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Otis L Thompson, Jr./
Examiner, Art Unit 2619

May 8, 2008

/Chirag G Shah/
Supervisory Patent Examiner, Art Unit 2619